

FEB 21 2003

SUMMARY OF SAFETY AND EFFECTIVENESS

K023982

1. Device Name: Magnetic Resonance Imaging Accessory
2. Proprietary Name: Leo III Tx/Rx Quadrature Knee Coil
3. Classification: Class II
4. Establishment Registration #: 1529041
5. Manufacture Facility Location: USA Instruments, Inc.,
1515 Danner Drive
Aurora, Ohio 44202, USA
Telephone: 330-562-1000; Fax: 330-562-1422.
6. Performance Standard: No applicable performance standards have been issued under Section 514 of the Food, Drug and Cosmetic Act.
7. Intended Use: The Leo III Tx/Rx Quadrature Knee Coil is a transmit-receive quadrature RF coil, used for obtaining diagnostic images of the knee and surrounding anatomy in Magnetic Resonance Imaging Systems. The Leo III Tx/Rx Quadrature Knee Coil is designed for use with the Magnetom Trio 3.0T MRI system manufactured by Siemens Medical Solutions, Inc. The indications for use are the same as for standard MR Imaging.
8. Device Description: The Leo III Tx/Rx Quadrature Knee Coil is a multi-element quadrature transmit-receive coil. The coil has a split top design with a latching device and a large open viewing window on the top. The open, patient friendly design eases patient handling and positioning and maximizes patient comfort. The coil elements and accessory electronics are enclosed in a rigid plastic housing, which is fire rated and has a high impact and tensile strength.

Please turn over

9. Safety and Effectiveness

Leo III Tx/Rx Quadrature Knee Coil Product Features	Comparison to predicate device or other 510(k) cleared products
Intended Use: Imaging of the knee and surrounding anatomy.	- Similar to the Allegra 3.0Tesla TxRx Head coil manufactured by USA Instruments, Inc. (K002179) - Similar to the Leo 7000 Knee Coil manufactured by USA Instruments, Inc. (K971246)
Indications for Use: Identical to routine MRI imaging.	- Similar to the Allegra 3.0Tesla TxRx Head coil manufactured by USA Instruments, Inc. (K002179) - Similar to the Leo 7000 Knee Coil manufactured by USA Instruments, Inc. (K971246)
Coil Enclosure Material: Flame Retardant Polyurethane Flame Retardant Polycarbonate Kydex Acrylic/PVC Delrin Acetal	- Similar to the Hi-Res 9000 Phased Array Carotid Coil manufactured by USA Instruments, Inc. (K001210)
Coil Design: 12 z-inductor transmit receive quadrature coil.	- Similar to the Allegra 3.0Tesla TxRx Head coil manufactured by USA Instruments, Inc. (K002179)
Decoupling: This is a transmit and receive coil. There is no decoupling, the Transmit / Receive Switch is actively switched during transmit and receive modes.	- Similar to the Allegra 3.0Tesla TxRx Head coil manufactured by USA Instruments, Inc. (K002179)
Prevention of RF Burns: The coil's transmit /receive switch uses pin diodes to isolate the receive channel from the transmit channel; coil elements and circuitry are enclosed in a non-conductive housing.	- Similar to the Allegra 3.0Tesla TxRx Head coil manufactured by USA Instruments, Inc. (K002179)
Radio Frequency Absorption: Power deposition during imaging is limited by SAR algorithm	- Similar to the Allegra 3.0Tesla TxRx Head coil manufactured by USA Instruments, Inc. (K002179)
Formation of Resonant Loop: Active diodes and fast RF blowing fuses isolate the coil elements from RF fields; length of cable and stiffness does not permit looping	- Similar to the Allegra 3.0Tesla TxRx Head coil manufactured by USA Instruments, Inc. (K002179)

SUMMARY OF SAFETY AND EFFECTIVENESS

1. Device Name: Magnetic Resonance Imaging Accessory
2. Proprietary Name: Alpha III Tx/Rx Quadrature Wrist Coil
3. Classification: Class II
4. Establishment Registration #: 1529041
5. Manufacture Facility Location: USA Instruments, Inc.
1515 Danner Drive
Aurora, Ohio 44202, USA
Telephone: 330-562-1000; Fax: 330-562-1422.
6. Performance Standard: No applicable performance standards have been issued under Section 514 of the Food, Drug and Cosmetic Act.
7. Intended Use: The Alpha III Tx/Rx Quadrature Wrist Coil is a transmit-receive quadrature RF coil, used for obtaining diagnostic images of the wrist and hand in Magnetic Resonance Imaging Systems. The Alpha III T/R Quadrature Wrist Coil is designed for use with the Magnetom Trio 3.0T MRI system manufactured by Siemens Medical Solutions, Inc. The indications for use are the same as for standard MR Imaging.
8. Device Description: The Alpha III T/R Quadrature Wrist Coil is a multi-element quadrature transmit-receive coil. The coil has a rigid enclosure with windows on top to facilitate patient handling. The open, patient friendly design eases patient handling and positioning and maximizes patient comfort. The coil elements and accessory electronics are enclosed in a rigid plastic housing, which is fire rated and has a high impact and tensile strength.

Please turn over

9. Safety and Effectiveness

Alpha III Tx/Rx Quadrature Wrist Coil Product Features	Comparison to predicate device or other 510(k) cleared products
Intended Use: Imaging of the wrist and hand	-Similar to the Alpha 7000 Wrist Coil manufactured by USA Instruments, Inc. (K972205)
Indications for Use: Identical to routine MRI imaging.	-Similar to the Alpha 7000 Wrist Coil manufactured by USA Instruments, Inc. (K972205) -Similar to the Allegra 3.0Tesla TxRx Head coil manufactured by USA Instruments, Inc. (K002179)
Coil Enclosure Material: Flame Retardant Polyurethane Flame Retardant Polycarbonate Kydex Acrylic/PVC Delrin Acetal	- Similar to the Hi-Res 9000 Phased Array Carotid Coil manufactured by USA Instruments, Inc. (K001210)
Coil Design: 2 element saddle transmit receive quadrature coil.	- Similar to the Allegra 3.0Tesla TxRx Head coil manufactured by USA Instruments, Inc. (K002179)
Decoupling: This is a transmit and receive coil. There is no decoupling, the Transmit / Receive Switch is actively switched during transmit and receive modes.	- Similar to the Allegra 3.0Tesla TxRx Head coil manufactured by USA Instruments, Inc. (K002179)
Prevention of RF Burns: The coil's transmit /receive switch uses pin diodes to isolate the receive channel from the transmit channel; coil elements and circuitry are enclosed in a non-conductive housing.	- Similar to the Allegra 3.0Tesla TxRx Head coil manufactured by USA Instruments, Inc. (K002179)
Radio Frequency Absorption: Power deposition during imaging is limited by SAR algorithm	- Similar to the Allegra 3.0Tesla TxRx Head coil manufactured by USA Instruments, Inc. (K002179)
Formation of Resonant Loop: Active diodes and fast RF blowing fuses isolate the coil elements from RF fields; length of cable and stiffness does not permit looping	- Similar to the Allegra 3.0Tesla TxRx Head coil manufactured by USA Instruments, Inc. (K002179)



FEB 21 2003

Food and Drug Administration
9200 Corporate Boulevard
Rockville MD 20850

Ms. Christie Shumaker
Manager QA and Regulatory
USA Instruments, Inc.
1515 Danner Drive
AURORA OH 44202

Re: K023982
Trade/Device Name: Leo III Tx/Rx Quadrature Knee
Coil and Alpha III Tx/Rx Quadrature Wrist Coil
Regulation Number: 21 CFR 892.1000
Regulation Name: Magnetic resonance
diagnostic device
Regulatory Class: II
Product Code: 90 MOS
Dated: November 27, 2002
Received: December 2, 2002

Dear Ms. Shumaker:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (sections 531-542 of the Act); 21 CFR 1000-1050.

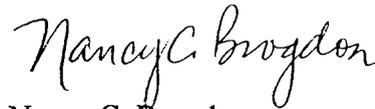
This letter will allow you to begin marketing your device as described in your Section 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Office of Compliance at one of the following numbers, based on the regulation number at the top of the letter:

8xx.1xxx	(301) 594-4591
876.2xxx, 3xxx, 4xxx, 5xxx	(301) 594-4616
884.2xxx, 3xxx, 4xxx, 5xxx, 6xxx	(301) 594-4616
892.2xxx, 3xxx, 4xxx, 5xxx	(301) 594-4654
Other	(301) 594-4692

Additionally, for questions on the promotion and advertising of your device, please contact the Office of Compliance at (301) 594-4639. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97) you may obtain. Other general information on your responsibilities under the Act may be obtained from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its Internet address <http://www.fda.gov/cdrh/dsma/dsmamain.html>.

Sincerely yours,



Nancy C. Brogdon
Director, Division of Reproductive,
Abdominal and Radiological Devices
Office of Device Evaluation
Center for Devices and Radiological Health

Enclosure

510(k) Number (if known): K023982

Device Name: Leo III Tx/Rx Quadrature Knee Coil
Alpha III Tx/Rx Quadrature Wrist Coil

Indications for Use: The Leo III Tx/Rx Quadrature Knee Coil is designed to provide Magnetic Resonance Images of the knee and surrounding anatomy. The Alpha III Tx/Rx Quadrature Wrist Coil is designed to provide Magnetic Resonance Images of the wrist and hand. The Leo III Tx/Rx Quadrature Knee Coil and the Alpha III Tx/Rx Quadrature Wrist Coil are designed for use with the Siemens Magnetom Trio 3.0T scanner manufactured by Siemens Medical Solutions.

Anatomic Regions:

Leo III Tx/Rx Quadrature Knee Coil: Knee and surrounding Anatomy

Alpha III Tx/Rx Quadrature Wrist Coil: Wrist and Hand

Nuclei Excited: Hydrogen

The indications for use are the same as for standard imaging:

The 3.0T MRI system is indicated for use as an NMR device that produces images that: (1) correspond to the distribution of protons exhibiting NMR signal, (2) depend upon NMR parameters (proton density, spin lattice relaxation time T1, spin-spin relaxation time T2) and (3) display the soft tissue structure of the head and whole body. When interpreted by a trained physician, these images yield information that can be useful in the determination of a diagnosis.

(PLEASE DO NOT WRITE BELOW THIS LINE- CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)

Prescription Use OR Over-The-Counter Use
(Per 21 CFR 801.109) (Optional Format 1-2-96)

Nancy C Brogdon
(Division Sign-Off)
Division of Reproductive, Abdominal,
and Radiological Devices
510(k) Number K023982